

JUL 0 2 2002

Sheet 1 of 5

PTO-1449 (Modified) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT BY APPLICANT	ATTY. DOCKET NO. 00311.53535	SERIAL NUMBER 02/600,339 10/020151
	APPLICANT Roger S. Cubicciotti	
	FILING DATE 02/13/96	GROUP ART UNIT 1802-1818 1742

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
HAB	① 3,934,369	01/27/76	Rebeiz			
	② 4,320,050	03/16/82	Rebeller et al.			
	③ 4,520,110	05/28/85	Stryer et al.			
	4 4,542,104	09/17/85	Stryer et al.			
	5 4,666,862	05/19/87	Chan			
	6 4,745,285	05/17/88	Recktenwald et al.			
	7 4,857,474	08/15/89	Waterbury et al.			
	8 4,859,582	08/22/89	Stryer et al.			
	9 5,055,556	10/08/91	Stryer et al.			
	10 5,171,846	12/15/92	Gupta			
	11 5,272,257	12/21/93	Gupta			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION YES/NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

12	Apt et al., "Characterization and Transcript Analysis of the Major Phycobiliprotein Subunit Genes from <i>Aglaothamnion Neglectum</i> (Rhodophyta)", <i>Plant Molecular Biology</i> 21:27-38 (1993)
13	Apt et al., "Genes Encoding Phycobilisome Linker Polypeptides on the Plastid Genome of <i>Aglaothamnion neglectum</i> (Rhodophyta)", <i>Photosynthesis Research</i> 35:235-245 (1993)
14	Cohen-Bazire et al., "Chapter 7: Phycobilisomes: Composition and Structure", <i>The Biology of Cyanobacteria</i> , Carr NG and Whitton BA (eds), Univ. of Cal Press, Berkeley & LA, pp. 143-190 (1982)
15	Bennett et al., "Properties of Subunits and Aggregates of Blue-Green Algal Biliproteins", <i>Biochemistry</i> 10 (19):3625-3634 (1971)
16	Brimble et al., "Pigment Orientation and Excitation Energy Transfer in <i>Porphyridium cruentum</i> and <i>Synechococcus</i> sp. PCC 6301 Cross-Linked in Light State 1 and Light State 2 with Glutaraldehyde", <i>Biochem. & Biophys. Acta</i> , 973:315-323 (1989)

EXAMINER: <i>HAB</i>	DATE CONSIDERED 10/22/96
EXAMINER: Initial citation if reference was considered. Draw line through citation if not in conformance to MPEP 609 and not considered. Include copy of this form with next communication to applicant.	

RECEIVED

JUL 0 9 2002

OFFICE OF PETITIONS

RECEIVED

JUL 0 8 2002

RECEIVED

JUL 02 2002
PATENT & TRADEMARK OFFICE

Sheet 24 of 5

PTO-1449 (Modified) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT BY APPLICANT	ATTY. DOCKET NO. 00311.53535	SERIAL NUMBER 087000,359
	APPLICANT Roger S. Cubicciotti	
	FILING DATE 02/13/96	GROUP ART UNIT 1802-481539

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

17	HAB	Bruce et al., "State Transitions in a Phycobilisome-Less Mutant of the Cyanobacterium <i>Synechococcus</i> sp. PCC 7002", <i>Biochimica et Biophysica Acta</i> 974:66-73 (1989)
18		Bruns et al., "Molecular Characterization of Phycobilisome Regulatory Mutants of <i>Fremyella diplosiphon</i> ", <i>J. Bacteriology</i> 171(2):901-908 (1989)
19		Bryant et al., "Characterization of the Biliproteins of <i>Gloeobacter violaceus</i> ", <i>Arch. Microbiology</i> 129:190-198 (1981)
20		Bryant, "Phycobilisomes of <i>Synechococcus</i> Sp. PCC 7002, <i>Pseudanabaena</i> SP. PCC 7409, and <i>Cyanophora paradoxa</i> : an Analysis by Molecular Genetics", <i>Photosynthetic Light-Harvesting Systems</i> , Scheer H, Schneider S. (eds), Walter de Gruyter & Co., NYC (1988)
21		Canaani et al., "Formation of Hybrid Phycobilisomes by Association of phycobiliproteins from <i>Nostoc</i> and <i>Fremyella</i> ", <i>Proc. Natl. Acad. Sci. USA</i> 79:5277-5281 (1982)
22		Canaani et al., "Reassembly of Phycobilisomes from Allophycocyanin and a Phycocyanin-Phycocerythrin Complex", <i>FEBS Letters</i> 115(2):225-229 (1980)
23		Collier et al., "A Small Polypeptide Triggers Complete Degradation of Light-Harvesting Phycobiliproteins in Nutrient-Deprived Cyanobacteria", <i>The EMBO Journal</i> 13(5):1039-1047 (1994)
24		Conley et al., "Genes Encoding Major Light-Harvesting Polypeptides are Clustered on the Genome of the Cyanobacterium <i>Fremyella diplosiphon</i> ", <i>Proc. Natl. Acad. Sci. USA</i> 83:3924-3928 (1986)
25		Gagliano et al., "Orientation of Pigments in Phycobilisomes of <i>Porphyridium</i> sp. Lewin. A Linear Dichroism Study Utilizing Electric and Gel Orientation Methods", <i>Biochim. & Biophys. Acta</i> 808:455-463 (1985)
26		Gantt, "Phycobilisomes: Assessment of the Core Structure and Thylakoid Interaction", <i>Light-Energy Transduction in Photosynthesis: Higher Plant and Bacterial Models</i> , Stevens SE, Bryant DA (eds), American Society of Plant Physiologists, pp. 91-101 (1988)
27		Gantt et al., "Photosystem II-Phycobilisome Complex Preparations", <i>Methods in Enzymology</i> 267:286-290 (1988)
28		Gantt et al., "Phycobiliprotein Localization in Algae", <i>Energy Conversion by the Photosynthetic Apparatus</i> , No. 19:393-405 (1967)
29		Gantt, "Properties and Ultrastructure of Phycocerythrin from <i>Porphyridium cruentum</i> ", <i>Plant Physiol.</i> 44:1629-1638 (1969)
30		Gantt, "Phycobilisomes from Blue-Green and Red Algae", <i>Plant Physiol.</i> 63:615-620 (1979)
31		Gantt et al., "Phycobilisomes of <i>Porphyridium Cruentum</i> ", <i>J. Cell Biol.</i> 54:313-324 (1972)
32		Gantt et al., "Granules Associated with the Chloroplast Lamellae of <i>Porphyridium Cruentum</i> ", <i>J. Cell Biol.</i> 29:423-434 (1966)

EXAMINER <i>Hatch</i>	DATE CONSIDERED 10/22/96
-----------------------	--------------------------

EXAMINER: Initial citation if reference was considered. Draw line through citation if not in conformance to MPEP 609 and not considered. Include copy of this form with next communication to applicant.

[Handwritten signature]

6-16-03

RECEIVED
JUL 09 2002
OFFICE OF PETITIONS

JUL 02 2002

Sheet 3 of 5

PTO-1449 (Modified) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT BY APPLICANT	ATTY. DOCKET NO. 00311.53535	SERIAL NUMBER 08/600,359
	APPLICANT Roger S. Cubicciotti	
	FILING DATE 02/13/96	GROUP ART UNIT 1802 159

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

33	Gantt et al., "The Ultrastructure of <i>Porphyridium Cruentum</i> ", <i>J. Cell Biol.</i> 26:365-381 (1965)
34	Gingrich et al., "Core Substructure in Cyanobacterial Phycobilisomes", <i>J. Cellular Biochemistry</i> 22:1-14 (1983)
35	Glazer et al., "Kinetics of Energy Flow in the Phycobilisome Core", <i>Science</i> 230:1051-1053 (1985)
36	Glazer, "Light Harvesting by Phycobilisomes", <i>Ann. Rev. Biophys. Chem.</i> 14:47-77 (1985)
37	Glazer, "Light Guides", <i>J. Biological Chemistry</i> 264(1):1-4 (1989)
38	Glazer, "Phycobilisome: A Macromolecular Complex Optimized for Light Energy Transfer", <i>Biochimica et Biophysica Acta</i> 768:29-51 (1984)
39	Glazer, "Structure and Molecular Organization of the Photosynthetic Accessory Pigments of Cyanobacteria and Red Algae", <i>Mol. Cell Biochem.</i> 18:125-139 (1977)
40	Glazer et al., "Fluorescent Tandem Phycobiliprotein Conjugates", <i>Biophys. J. Biophysical Society</i> 43:383-386 (1983)
41	Glazer et al., "Formation of Hybrid Proteins from the α and β Subunits of Phycocyanins of Unicellular and Filamentous Blue-Green Algae", <i>J. Biol. Chem.</i> 248:663-671 (1973)
42	Glick et al., "Role of Colorless Polypeptides in Phycobilisome Reconstitution from Separated Phycobiliproteins", <i>Plant Physiol.</i> 69:991-997 (1982)
43	Grossman et al., "A Rapid Procedure for the Isolation of Intact Phycobilisomes", <i>Carnegie Inst. Wash. Yearbook</i> 82:116120 (1983)
44	Guglielmi et al., "The Structure of <i>Gloeobacter violaceus</i> and its Phycobilisomes", <i>Arch. Microbiology</i> 129:181-189 (1981)
45	Houmard et al., "Genes Encoding Cor Components of the Phycobilisome in the Cyanobacterium <i>Calothrix</i> sp. Strain PCC 7601: Occurrence of a Multigene Family", <i>J. Bacteriology</i> 170(12):5512-5521 (1988)
46	Katoh et al., "Photosynthetic Vesicles with Bound Phycobilisomes from <i>Anabaena variabilis</i> ", <i>Biochimica et Biophysica Acta</i> 546:383-393 (1979)
47	Katoh, "Phycobilisome Stability", <i>Methods in Enzymology</i> 167:313-318 (1988)
48	Kirilovsky et al., "Functional Assembly <i>in Vitro</i> of Phycobilisomes with Isolated Photosystem II Particles of Eukaryotic Chloroplasts", <i>J. Biol. Chem.</i> 261(26):12317-12323 (1986)

EXAMINER <i>HARRIS</i>	DATE CONSIDERED 10/22/96
EXAMINER: Initial citation if reference was considered. Draw line through citation if not in conformance to MPEP 609 and not considered. Include copy of this form with next communication to applicant.	

[Signature]

6-16-03

RECEIVED
JUL 09 2002
OFFICE OF PETITIONS

RECEIVED

JUL 02 2002

Sheet 4 of 5

PTO-1449 (MPEP 609) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT BY APPLICANT	ATTY. DOCKET NO. 00311.53535	SERIAL NUMBER 08/600,339
	APPLICANT Roger S. Cubicciotti	
	FILING DATE 02/13/96	GROUP ART UNIT 1202-8181

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

49	Kronick et al., "Immunoassay Techniques with Fluorescent Phycobiliprotein Conjugates", <i>Clin. Chem.</i> 29/9:1582-1586 (1983)
50	Lipschultz et al., "Association of Phycoerythrin and Phycocyanin: In Vitro Formation of a Functional Energy Transferring Phycobilisome Complex of <i>Porphyridium sordidum</i> ", <i>Biochemistry</i> 20:3371-3376 (1981)
51	Clement-Metral et al., "Fluorescence Transfer in Glutaraldehyde Fixed Particles of the Red Alga <i>Porphyridium Cruentum</i> (N)", <i>FEBS Letters</i> 12(4):225-228 (1971)
52	Clement-Metral et al., "Isolation of Oxygen-Evolving Phycobilisome-Photosystem II Particles from <i>Porphyridium cruentum</i> ", <i>FEBS Letters</i> 156(1):185-188 (1983)
53	Rosinaki et al., "Phycobilisome Ultrastructure and Chromatic Adaptation in <i>Fremyella diplosiphon</i> ", <i>Ann. Bot.</i> 47:1-12 (1981)
54	Shen et al., "Synechocystis sp PCC 6803 Strains Lacking Photosystem I and Phycobilisome Function", <i>The Plant Cell</i> 5:1853-1863 (1993)
55	Sofrova et al., "Crosslinking of Isolated Phycobilisomes with Dimethyl Suberimidate", <i>Photosynthesis III. Structure and Molecular Organisation of the Photosynthetic Apparatus</i> , edited by George Akoyunoglou, Balaban International Science Services, Philadelphia, PA (1981)
56	Yamanaka et al., "Molecular Architecture of a Light-Harvesting Antenna", <i>J. Biological Chemistry</i> 257(8):4077-4086 (1982)
57	Wolfe et al., "Evidence for a Common Origin of Chloroplasts with Light-Harvesting Complexes of Different Pigmentation", <i>Nature</i> 367:566-568 (1994)
58	Redecker et al., "Core Substructure of the Hemielipsoidal Phycobilisome From the Red Alga <i>Porphyridium Cruentum</i> ", <i>European J. Cell Biology</i> 62:442-450 (1993)
59	Skibinski et al., "Spectral Properties of <i>Mastigocladus laminosus</i> Phycobilisomes Embedded in Poly(vinyl alcohol) Films", <i>J. Photochem. Photobiol. B: Biol.</i> 23:213-223 (1994)
60	Frackowiak et al., "Analysis of Time-Resolved Emission Spectra of Oriented Phycobilisomes", <i>Biophysical Chemistry</i> 42:153-161 (1992)
61	Lu Rong-Zhao et al., "Studies in the Fluorescence Emission Spectra and Energy Transfer of Phycobilisomes from <i>Spirulina Platensis</i> in the Course of Dissociation" <i>Research in Photosynthesis</i> 1:61-64 (1992)

EXAMINER <i>Hertz</i>	DATE CONSIDERED 10/22/96
-----------------------	--------------------------

EXAMINER: Initial citation if reference was considered. Draw line through citation if not in conformance to MPEP 609 and not considered. Include copy of this form with next communication to applicant.

RECEIVED

JUL 09 2002

OFFICE OF PETITIONS

JUL 02 2002

Sheet 5 of 5

PTO-1449 (Modified) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT BY APPLICANT	ATTY. DOCKET NO. 00311.53535	SERIAL NUMBER 08/688,359
	APPLICANT Roger S. Cubicciotti	
	FILING DATE 02/13/96	GROUP ART UNIT 1802 1818

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION YES/NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

62	Gantt et al., "Phycobilisomes: A Terminal Acceptor Pigment in Cyanobacteria and Red Algae", <i>Molecular Biology of the Photosynthetic Apparatus</i> , 1985 Cold Spring Harbor laboratory pp. 223-229
63	Gantt, "Phycobilisomes", <i>Photosynthesis III: Photosynthetic Membranes and Light Harvesting Systems</i> (L.A. Strachelin and C.J. Arntzen, eds.), pp. 260-268, Springer-Verlag, NY
64	Grossman et al., "The Phycobilisome, a Light-Harvesting Complex Responsive to Environmental Conditions", <i>Microbiological Reviews</i> 57(3):725-749 (1993)
65	Rigbi et al., "Cyanobacterial Phycobilisomes: Selective Dissociation Monitored by Fluorescence and Circular Dichroism", <i>Proc. Natl. Acad. Sci. USA</i> 77(4):1961-1965 (1980)
66	Biggins, "Mechanism of the Light State Transition in Photosynthesis", <i>Biochimica et Biophysica Acta</i> 724:111-117 (1983)
67	Glazer et al., "Phycofluor Probes", <i>TIBS</i> , October 1994, pp. 423-427
68	Glazer, "Phycobilisomes: Structure and Dynamics of Energy Flow", <i>Molecular Biology of the Photosynthetic Apparatus</i> , 1985 Cold Spring Harbor Laboratory, pp. 231-239

EXAMINER <i>H. A. R.</i>	DATE CONSIDERED 10/22/96
EXAMINER: Initial citation if reference was considered. Draw line through citation if not in conformance to MPEP 609 and not considered. Include copy of this form with next communication to applicant.	

6/16/03
RECEIVED
JUL 09 2002
OFFICE OF PETITIONS